

RECORDED
ON ANTIBIS

deser. of *pallidus*
from Florida.

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XVII. Descriptions of some Species of Brazilian Ants belonging to the Genera *Pseudomyrma*, *Eciton* and *Myrmica* (with Observations on their Economy by Mr. H. W. BATES). By FREDERICK SMITH, Esq.

[Read January 1st, 1855.]

GENUS PSEUDOMYRMA, Guér.

Antennæ sub-clavate, 13-jointed in the females, 12-jointed in the workers, the antennæ slightly thickened towards their apex, not quite so long as the head and thorax, inserted on the anterior part of the face, near the mouth, on each side of a short elevated carina. *Mandibles* triangular, denticulated on their inner margin. *Eyes* elongate-ovate, very large, occupying a large portion of the head; ocelli three, placed in a triangle on the vertex. *Thorax* elongate, compressed at the sides; the anterior wings having one marginal and two complete submarginal cells, the second receiving the first recurrent nervure near its base; one discoidal cell; legs short and stout. *Abdomen* ovate; the first segment forming an elongate pedunculated node, the second large and globose.

The name *Pseudomyrma* is proposed for the insects comprised in this genus by Lund, in the *Annales des Sciences Naturelles*, 1831; but the only character there given is the extraordinary

size of the eyes; the genus is fully characterized by Guérin in the *Iconographie du Règne Animal*.

The observation of the habits of these curious ants given by Lund is, that they are to be found running on the trunks and leaves of shrubs and trees; our indefatigable and observant countryman, Mr. H. W. Bates, sends me the following account of one of the species, *P. oculata*: "Its colonies I have hitherto found only in the tumuli of different species of *Termes*; in some instances I found them in spacious elliptical chambers, in the outer walls of the *Termitaria*; one colony to each chamber; the chambers wide apart and having no connection with each other; the number of individuals few in each colony; the pupæ are not enclosed in cocoons. In some instances I have found them with their larva and pupæ within the same chambers as the *Termes*, in different parts of the *Termitarium*; the workers are sometimes found in numbers, coursing rapidly over trees and herbage. Another species constructs its *Formicarium* in the pith tube of dried twigs, the colonies are not numerous." We may from these circumstances perceive that they are insects of varied habit, and that, like those of the genera *Formica* and *Myrmica* found in this country, some prefer to construct their habitations under ground, others in decaying trees, whilst at least one species chooses part of the same mound or tumuli, as a species of *Termite*; in the same manner we find species of *Myrmica scabrinodis* occupying one side of a little hillock, and *Formica flava* the other.

I have a very strong suspicion that some of the species described in this paper belong to the genus *Condylodon*, proposed by Lund, whilst others would fall into that of *Pseudomyrma*; the distinctions between these being merely indicated by that author in his communication to his friend Audouin; but as the species which presents the greatest disparity to the type (*P. advena*) is one of which I possess the winged female, and as I find the neuration identical with that of the typical species, I retain them all in one genus.

Sp. 1. *Pseudomyrma bicolor*, Guér.

Pseudomyrma bicolor, Guér., *Icon. Reg. Anim. Ins.*, 437.

Worker.—Length 5 lines. Obscure black; shining and thinly covered with a fine sericeous pile; the mouth, anterior margin of the face, the scape at the base and apex beneath, and the flagellum beneath, rufo-testaceous; the articulations of the joints of the legs, the anterior tibiæ and tarsi, rufo-testaceous. The first node,

and the petiole of the abdomen, red; the node elevated anteriorly; the second segment globular, the extreme apex testaceous.

This species is from Columbia, and I think must be the same as that described by Guérin. I have only seen the single specimen which is in my own Collection.

Sp. 2. *Pseudomyrma unicolor*, n. s.

Worker.—Length $5\frac{1}{2}$ lines. Black, smooth and shining, covered with fine, short, pale, glittering pubescence, interspersed with scattered, erect, long, pale hairs; the upper surface of the thorax flattened, having the sides sharp and angulated; the mandibles rufo-testaceous; the claws rufo-piceous, the calcaria pale testaceous; the metathorax slightly curved above, from the base to the apex.

This species is from Brazil. I believe this insect would fall into the genus *Condylodon* of Lund. I have been unable to detect anything beyond specific differences between that genus and *Pseudomyrma*, as characterized by M. Guérin. In my own Collection.

Sp. 3. *Pseudomyrma termitaria*.

Female.—Length $3\frac{1}{2}$ lines. Head black; the anterior margin of the face, the mandibles and scape ferruginous; the thorax and legs ferruginous, the wings hyaline, the nervures pale testaceous, the stigma fuscous; the tibiæ have the calcaria pale testaceous; the metathorax rounded posteriorly; the two nodes and basal segment of the abdomen ferruginous; the apical segments black; the entire insect is smooth and thinly covered with a very fine sericeous pile; the form of the thorax is an elongated oval, rather widest in front.

Worker.—Length $2\frac{1}{2}$ lines. Coloured the same as the female; the thorax rather widest in front, the sides being compressed.

Mr. Bates finds this species constructing its elliptical chamber, or dwelling, in the walls of the tumulus of a species of white ant. I have no doubt of this being a species of *Pseudomyrma*, as described by Lund; its head is rather larger, and the eyes larger than in the other species.

Sp. 4. *Pseudomyrma maculata*.

Worker.—Length 3 lines. Head, antennæ, thorax and legs pale ferruginous; a small fuscous spot on the vertex, enclosing the ocelli; the eyes, a stripe down the middle of the metathorax, not reaching the apex, fuscous; the femora above, and the posterior tibiæ

and tarsi, slightly fuscous; the petiole and first node of the abdomen pale ferruginous; the second node and the abdomen fuscous, and covered with a fine sericeous pile; the extreme apex rufo-testaceous; the apical segment has a number of long fuscous hairs; the head and thorax have a similar fine pile to that on the abdomen.

The habitat of this species is Brazil. In my own Collection.

Sp. 5. *Pseudomyrma sericata*.

Worker.—Length $3\frac{1}{2}$ lines. Black, thickly covered with fine short silky pubescence; the anterior margin of the face and the mandibles testaceous-yellow; the antennæ rufo-testaceous, the flagellum sometimes slightly fuscous above; the legs testaceous, the anterior tibiæ and tarsi pale: the prothorax and margins of the scutellum rufo-testaceous; the petiole of the abdomen is of the same colour as the prothorax.

This species is also from Brazil. In my own Collection.

Sp. 6. *Pseudomyrma elegans*.

Worker.—Length 3 lines. The head and abdomen black; the scape in front, the base of the flagellum, the anterior margin of the face and the mandibles, ferruginous: the thorax, legs and nodes of the abdomen, ferruginous; the apical joints of the tarsi slightly fuscous; the entire insect destitute of pubescence.

This species was captured by Mr. Bates, at Para. In my own Collection.

Sp. 7. *Pseudomyrma nigriceps*.

Worker.—Length $2\frac{1}{2}$ lines. Head black: the antennæ, mandibles, and the anterior margin of the face, rufo-testaceous; the thorax, abdomen and legs pale rufo-testaceous: the first node of the abdomen subtriangular, the upper margin being curved, the curve channelled from the base to the apex, the latter emarginate; the second node globose; the sides of the abdomen compressed, but not strangulated in the middle.

This species was captured by Mr. Bates, at Santarem, Brazil; it was found coursing over herbage, and also on sandy banks. In my own Collection.

Sp. 8. *Pseudomyrma oculata*. (Pl. XIII.)

Female.—Length $2\frac{1}{2}$ lines. The head, antennæ, prothorax, tibiæ and tarsi, pale rufo-testaceous; the head elongate, full two-thirds of the length of the thorax; it is also wider than the latter;

See
Pl. advena
in plate

the eyes very large, placed rather more within the face than in the other species; the antennæ rather more thickened at the apex than in the other species of the genus; the meso- and metathorax, abdomen and femora, fusco-testaceous; wings hyaline, nervures pale testaceous, the stigma fuscous; the sides of the thorax nearly parallel, transverse in front, the angles rounded; the metathorax obliquely rounded at the sides.

Worker.—2 lines. Closely resembling the female, but having the thorax strangled in the middle, and compressed at the sides, and being altogether of a paler colour.

There is considerable difference in the form of the thorax and head of this species when compared with the others; and had I not possessed the female, and had an opportunity of observing that the neuration of the wings is identical with that of the others, I should probably have placed this insect in a separate genus. In addition to these reasons for retaining it, I have the observation of Mr. Bates on its habits, that of coursing over trunks of trees and leaves, in the same manner as the other species; and his note of observation—"this curious *Myrmica* is closely allied to No. 70," *P. nigriceps*.

Also from Brazil, in my own and other Collections.

Sp. 9. *Pseudomyrma pallida*.

Worker.—Length 2 lines. Pale testaceous yellow, smooth, shining and impunctate; the eyes and tips of the mandibles black; the thorax compressed at the sides, and somewhat narrowed posteriorly; the petiole of the first node of the abdomen pear-shaped, flattened above, and margined at the sides, the second node globular: the abdomen of a paler colour than the head, which is of a reddish yellow.

This species was found by my friend, the late Edward Doubleday, in East Florida, a locality in which he captured many rare and beautiful *Hymenoptera*; to this order he was greatly attached, and on the habit of many species he imparted much valuable information.

Genus *Eciton*, Latr.

Formica, pt. Fabr. Ent. Syst. ii. p. 364; Latr. pt. Hist. Nat. Fourm. p. 265.

Myrmecia, pt. Fabr. Syst. Piez. p. 425.

Eciton, Latr. Hist. Nat. des Crust. et des Ins.

Ancylognathus, Lund, An. Soc. Nat. xxvii.

Camplognatha, Westw. Griff. An. King. xv. 516.

The maxillary palpi 2-jointed; the basal joint clavate, broadest

at the base; the second joint a little shorter than the first, truncate at the apex: the labial palpi 3-jointed; the basal joint longest, the apical one shortest, its apex truncate. Workers, of two sizes; the larger individuals, in some species, having their mandibles protruded in an elongate curve, sickle-shaped, acute at their apex; the smaller workers having the mandibles short, curved, broad and flattened in the middle; their apex acute: the tongue and palpi, when in repose, covered and protected by the labrum, which is convex, large and transverse, its inferior margin rounded; head large, wider than the thorax, in some individuals disproportionately large; eyes very minute, placed somewhat backwards and within the sides of the head, not visibly reticulated: the ocelli obsolete in the workers. *Thorax* unarmed; abdomen with two nodes at its base. The males and females not known.

Sp. 1. *Eciton hamata*.

Formica hamata, Fabr. Ent. Syst., ii. 364, 58; Latr. Hist. Nat. Fourm., p. 242, tab. 8, fig. 54.

Myrmica hamata, Fabr. Syst. Piez., p. 425, 6.

Eciton hamata, Latr. Gen. Crust. et Ins., iv. 129.

Ancylognathus, Lund. Ann. Soc. Nat., xxvii.

Campylognatha, Westw. Griff. Anim. King., xv. 516, tab. 76, fig. 4.

Worker.—Length 4—4½ lines. Antennæ longer than the head and thorax; the flagellum sub-filiform and pubescent, the pubescence short and scattered; the head very large, full twice the width of the thorax, widest in front, and armed behind with two short spines of a pale yellow-testaceous colour; smooth, shining and thinly sprinkled with short pale hairs; mandibles elongate, sickle-shaped, and bent suddenly inwards at their apex, forming a pointed hook; sometimes rufo-piceous, sometimes black. The thorax, legs and abdomen of an opaque reddish yellow, the tarsi fuscous: the nodes of the abdomen *without spines* beneath; the abdomen ovate; ~~the entire insect thinly sprinkled with pale pubescence.~~

This insect is exceedingly abundant in Brazil; Mr. Bates has observed its legions in processions of great extent, but up to the present time has been unable to meet with the other sexes; this, however, he hopes to accomplish, but the societies are so numerous and the sting of the insects so severe, that an attack on one of their colonies for that purpose is not to be rashly undertaken.

Sp. 2. *Eciton vagans*.

Formica vagans, Oliv. Ency. Méth., vi. 501.

Worker.—Length 4—5 lines. Entirely opaque, reddish brown; some individuals have the head and thorax blackish brown; the mandibles as in *E. hamata*; the head has, on each side behind, a short bent tooth, and a central impressed line running from the insertion of the antennæ and nearly extending to the vertex; the eyes larger than in *E. hamata*, the thorax of the same form as in that species: the first node of the abdomen has a short acute spine beneath, curving backwards, the second has also a minute spine pointing forwards; the abdomen concolorous with the head and thorax; but sometimes fulvous.

Worker (minor).—3 lines. Has the head of a different form to the larger worker, being oblong and rounded at the angles; the spines behind very small; the mandibles small, curved, and very broad at their apex, the inner edge very finely serrated; the thorax similarly formed to that of the larger worker; the articulations of the legs pale, the tarsi palest. Abdomen pale reddish yellow, the nodes having sharp spines beneath, as in the large worker.

This species appears to be equally abundant as the former, but has been hitherto confounded with it.

Sp. 3. *Eciton curvidentata*.

Formica curvidentata, Latr. Hist. Nat. des Fourm., p. 269, tab. 8, fig. 55.

Worker.—3½ lines. Reddish yellow; the head paler than the other parts; the flagellum fusco-ferruginous, the scape ferruginous and inserted in a fossulet, the edges of which are raised in front, and recurved round the base of each scapus; the mandibles dark brown; short, stout and broadly expanded, the inner edge finely denticulate: head wider than the thorax, narrowed behind, the posterior angles having each a short bent spine. Thorax: an obtuse tubercle on each side at the base of the metathorax; the first node of the abdomen having at its base beneath a small tooth on each side; the second node has a tooth at its base beneath, pointing forwards. Abdomen ovate, and pointed at the apex: the entire insect thinly sprinkled with pale hairs.

This is probably a smaller form of the worker, either of *E. hamata* or *vagans*: it appears to be equally abundant with both those species.

Sp. 4. *Eciton rapax*, n. s.

Worker.—Length $4\frac{1}{2}$ lines. The head, thorax and legs of an opaque black; seven or eight of the apical joints of the flagellum fulvous beneath; the head and mandibles as in *E. curvidentata*; the edges of the cavity for the reception of the antennæ rather more raised at the sides; the metathorax armed with two acute spines; the articulations of the legs, the apex of the tibiæ and tips of the joints of tarsi, ferruginous; the first node of the abdomen having beneath a small spine curved backward: the abdomen reddish-yellow, thinly sprinkled with pale pubescence; the legs, head, thorax and antennæ sprinkled with black hairs.

Worker (minor).—Very closely resembling the larger worker; the flagellum has more of the fulvous colouring; the tip of the scape, the anterior margin of the face and inner edge of the mandibles, more or less ferruginous; the legs rufo-fuscous, with their articulations as well as the tarsi ferruginous; the metathorax without spines, but having two longitudinal carinæ, not produced at their termination. The first node of the abdomen armed beneath, as in the larger worker; there is also a minute tooth at the base of the second node, pointing forwards; abdomen reddish yellow.

This species was found by Mr. Bates at Para, and also at Santarem; I have not been able to find any description of it, and believe it to be a new species. It is found in the virgin forests of Brazil, as observed by Mr. Bates, not in open sandy situations like most of the other species.

Sp. 5. *Eciton crassicornis*, n. s.

Worker.—Dark reddish brown; the head, thorax and legs opaque; antennæ short and thickened; the scape clavate, the flagellum having the joints short, the apical ones being broader than long, and fulvous beneath: mandibles black, short, stout and longitudinally strigose, the inner margin of the apical dilatation quadridentate; the head wider than the thorax, and deeply emarginate behind; the lateral angles acute, scarcely dentate; the metathorax has on each side, near its base, a minute tubercle, and is produced and emarginate behind: the legs shorter and stouter than in the foregoing species, their articulations bright ferruginous. The basal node of the abdomen has an elevated central carina, acute at its apex, the second node unarmed; the abdomen thinly covered with short yellow pubescence, the other parts very thinly sprinkled with short erect pale hairs.

Worker (minor).— $2\frac{1}{2}$ lines. Closely resembles the preceding, but having the legs proportionably more slender and longer; the head is narrower.

This species is from Villa Nova, Brazil; its short legs and thickened antennæ readily distinguishing it.

Sp. 6. *Eciton simillima*, n. s.

Worker.—Length 2 lines. Reddish yellow; the antennæ short and clavate; head elongate, emarginate behind, the lateral angles acute: the metathorax having two longitudinal carinæ, not produced at their apex; legs shorter than in any of the other species, except *E. crassicornis*, the first node of the abdomen having a minute acute spine beneath, at its base; the second also having a very minute tooth, or spine, directed forwards: the entire insect very thinly sprinkled with pale glittering hairs.

This species approaches nearest to *E. crassicornis*; but its flagellum is much more slender at the base, the head is more elongate, and the metathorax differently formed. Sent from Para, by Mr. H. W. Bates.

Sp. 7. *Eciton legionis*, n. s.

Worker.—Length 3 lines. Reddish yellow and shining; antennæ the length of the head and thorax, inserted in a large cavity in front of the head; the margins of the cavity raised in front, curving inwards round each scapus and passing upwards to the edge of the cavity: the head elongate ovate, slightly emarginate behind, the angles not produced; the eyes very minute. Thorax narrower than the head, compressed at the sides, and rugose above; the metathorax without carinæ or spines; the nodes of the abdomen unarmed beneath: abdomen ovate, very smooth and shining.

Worker (minor).—2 lines. Excepting in size I can detect no very distinctive difference from the large worker.

Of this species Mr. Bates observes, "I have only found it in open sandy and grassy campos; it shows the same irritability and hurried movement as the other species; is very quick to break line, and to attack furiously, any intruding obstacle. In a procession which I observed there were no individuals with the largely developed mandibles, as in other species. The locality in which I observed it being an open district, it afforded me an opportunity of observing some parts of its habits, and the business which occupies

its immense processions; the columns of the other species I have always observed marching in the dense thorny thickets of the forest, so that the same facilities for observation do not offer themselves, and no human endurance can sustain the overwhelming attacks, the cruel sting and bite of these formidable insects. In this smaller species, although they climb by hundreds over one's person, in the same sudden way, the sting is not at all formidable. The first time I met with this species, it was near sunset: I found the column consisted of two trains of ants, moving in opposite directions; one train empty handed, the other laden with a variety of the mangled remains of insects, chiefly however the larvæ and pupæ of ants. I had no difficulty in tracing the line to the spot from which they were conveying their prey; this was in a low thicket, the *Ecitons* were moving rapidly about a heap of dead leaves; the tropical twilight was deepening, and I deferred further examination till the next day.

"On the following morning I found no trace of the ants in the place I had left them the preceding day, nor in the thicket were there any signs of insects of any description: but, at the distance of eighty or one hundred yards, I found them again, evidently engaged on another piece of business, a razzia of a similar kind, but requiring other resources of their instinct; they were eagerly occupied on the face of an inclined bank of light earth, excavating mines, whence, from the depth of eight or ten inches, they were extracting the bodies of a bulky species of *Formica*. It was curious to see them crowding round the orifices of the mines, and assisting their comrades to lift out the bodies of the *Formicæ*; the latter, being too bulky for one *Eciton* to carry, it was torn into pieces, and the laden marauders forthwith started off with their booty. On excavating the earth about the mines, I found the *Formicæ* at the depth of about eight inches, also their larvæ and pupæ. As fast as I excavated, the *Ecitons* rushed in, seizing the ants; I had great difficulty in securing a few specimens, they disputed them with me even in my hands: in excavating their mines, they assisted one another in so systematic a manner, with an appearance of so much intelligent co-operation, that it was truly a wonderful sight: those in the mines lifted up the pellets of earth to others stationed at the entrance, who forthwith conveyed them to a few inches distance from the place.

"I now turned towards the line of ants returning with their spoil of mutilated remains. For some distance there were many lines of them moving along the declivity of the bank, but at a short distance these converged; I then traced them to a large

indurated and ancient Termitarium: up the ascent of this the *Ecitons* were moving in a dense column, like a stream of liquid metal; many were now assisting in lugging up the bodies of the *Formicæ*, and the whole disappeared in one of the spacious tubular cavities which always traverse these old Termitaria from the summit to the base.

“It would appear, from what I observed, that *Eciton* feeds its larvæ with animal food; the species of *Formicæ* seized by this species of *Eciton* has a soft succulent body, and, if not intended as food for the larva, for what other purpose are they procured? probably, like the leaves gathered by *Ecodoma*, they pass through a process of comminution, before being supplied to the larvæ.”

GENUS MYRMICA.

Myrmica sævissima.

Worker.—Length $2\frac{1}{2}$ lines. Rufo-testaceous; smooth, shining and impunctate; the head oblong, rounded behind, having a central impressed line on the forehead, which passes forward, dividing into a fork; the forked lines running to the base of the antennæ; the mandibles short, stout and longitudinally striated; their inner margins armed with four black teeth; the scape slender, slightly thickened towards the apex, about the length of the head; the flagellum nine-jointed, the club dilated, formed of the two apical joints. Thorax strangulated between the meso- and metathorax; the latter unarmed: the legs elongate, thinly sprinkled with erect short pale hairs: abdomen sub-ovate, truncated at the base, the apical half black, or dark rufo-fuscous; the nodes without spines beneath, the first compressed, its superior margin rounded and elevated a little above the second node, which is globose; the entire insect very thinly sprinkled with erect pale hairs.

Worker (minor).— $1\frac{1}{2}$ lines. Very closely resembling the larger worker, but not having an impressed line on the forehead; in other respects they correspond.

This appears to be one of the most fearful and dreaded of all the visiting ants. We have heard of houses, in this country, being deserted in consequence of their being infested by *M. domestica*, certainly an unpleasant inhabitant, but not calculated to strike terror, and to drive every one out of their houses; such is however the effect of the appearance of *M. sævissima*. Mr. Bates says, “on the borders of the river Tapajos, this is the much dreaded ant, the terrible scourge of the river Tapajos. In 1852

I found, along the shores of the long sandy bays of the Tapajos, a continuous line of sediment, eight or ten miles in length, formed entirely of the bodies of the winged individuals of this species. It was the end of the rainy season, and the swarms had been carried away by the squalls of wind into the river, and had subsequently been cast ashore by the swell. This species is exclusively found in sandy soils, in open semi-cultivated or neglected places: in the shade of the woods not an individual is to be found; careful cultivation and weeding expels them from limited spaces; they increase only in the neighbourhood of deserted houses, or unweeded plantations; consequently, they are a scourge only to the lazy and worthless people who inhabit the shores of this magnificent river. Sometimes they increase to such an extent, that not an inch of ground is free from them; they dispute every fragment of food with the inhabitants; clothing they destroy for the sake of the starch, and attack persons with such cruel fury, that the lords of the creation are obliged to beat a retreat and the village becomes deserted. Their sting is very severe, the Brazilians liken it to the pain of a prick from a red-hot needle, or point,—hence the name '*Formiga de fogo*.' Their *Formicarium* is subterranean, and in the village of Aveyros the unweeded streets are covered with their mounds: there are one or two on the floor of the church,—it is impossible in fact to avoid an attack. The '*Formiga de fogo*' lets no one have any repose; one's legs are instantly covered with them, and they appear to attack in sheer malice. I was frequently obliged to retreat to the house of the Commandant, where it was my daily custom to enjoy an evening chat with the priest and a few neighbours, seated on chairs, with stools to support the feet, the ground being in full possession of the spiteful" "*Mymica sævissima*."

APPENDIX.

SINCE the foregoing paper was read to the Entomological Society, I have obtained a new species of the genus *Pseudomyrma*, which is of great interest, not only in exhibiting a very remarkable form, but also in throwing a light upon the history of the genus, which observation alone could furnish us with. For this I am indebted to the untiring industry of my friend Mr. W. H. Bates in observing the habits of these interesting insects. All the sexes were taken from the nest, formed in narrow, hollowed pith chambers in dried twigs; the sting of this species is very faint; the pupæ do not spin cocoons.

In 1852 I published a paper on some Indian *Hymenoptera* in the *Annals and Magazine of Natural History*, in which was described and figured a new genus of ants, *Tetraponera*. At that time I was only acquainted with two species, *Tetraponera atrata*, from India, and *T. testacea*, from South America, the latter described in a note; these insects, both females, were remarkable for having an elongated head, nearly as long as the thorax, having the sides parallel; these insects prove to be females of the genus *Pseudomyrma*. In the British Museum are workers of a species of the genus from India, probably the same species as the female described in the *Annals*.

In order to render the present communication as complete as possible on the South American species of *Pseudomyrma*, I add the description of the species described in the *Annals*.

Sp. 10. *Pseudomyrma testacea*.

Tetraponera testacea, Smith, *Ann. and Mag. Nat. Hist.*, 2nd Ser. ix. 45.

Female.—Length $3\frac{1}{2}$ lines. Testaceous, smooth and shining; the head elongate, truncate behind, slightly emarginate at the vertex; a shallow impressed line running from the anterior stemma to the insertion of the antennæ, where it terminates in a deep sulcation, carinate at its sides; the eyes black, and elongate-ovate; the mandibles ferruginous, roughly channelled longitudinally, with irregular striations, the teeth black. Thorax elongate-ovate, the pro- and metathorax rounded, the meso-thorax fusco-testaceous above; the whole very smooth and shining. Abdomen: the basal segment clavate, the second globose, the third slightly constricted, the whole very smooth and shining.

Hab. South America (Napo).

In the British Museum.

✓ Sp. 11. *Pseudomyrma cephalica*, n. s.

(= *jiliferus* Fabr)

Female.—Length 3 lines. Pale yellow testaceous, very smooth and shining; the head thrice as long as broad, the sides parallel, the eyes elongate-ovate; the mandibles black at their tips; the posterior margin of the vertex slightly emarginate. Thorax narrower than the head, elongate, rounded in front and behind; a minute black spot at the insertion of the wings, which are hyaline and beautifully iridescent; the femora broad and compressed. Abdomen petiolate, the petiole of nearly equal width throughout, or very slightly widest towards the apex; the second segment

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sub-globose; the base of the third segment fuscous, the two apical ones black, or fuscous.

Worker.—Length $2\frac{1}{2}$ lines. Rufo-testaceous; the head and thorax palest; the entire insect is covered with a delicate silky pile, most observable on the abdomen; the head oblong, the eyes large, occupying a large portion of the sides of the head; the petiole of the abdomen narrowest at the base; the first segment sub-globose, widest at the apex, this and the following segments slightly fuscous, and sprinkled with a few glittering hairs.

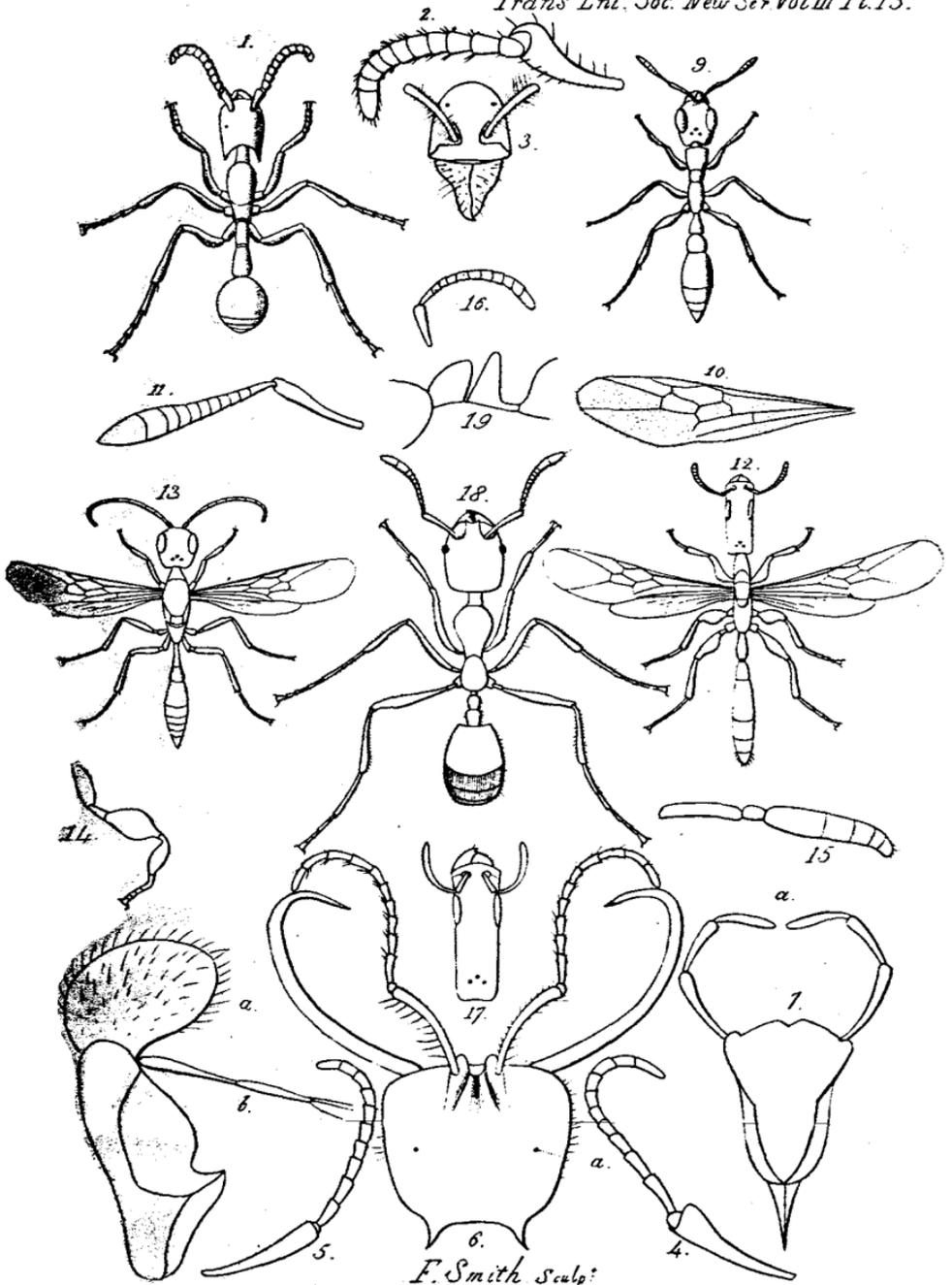
This sex is very like the *P. oculata*, of which a figure is given, but the head is proportionably rather narrower; the prothorax is oval, not widest in front; the petiole is rather shorter, and not so slender at the base.

Male.—Length $2\frac{1}{2}$ lines. Testaceous; the antennæ and legs pale testaceous; the head scarcely longer than broad; the eyes large, oval and placed at the sides of the head anteriorly; the ocelli large and glassy bright; the sides of the head rounded behind the eyes; the vertex emarginate. Thorax, the scutellum prominent; the wings hyaline, and beautifully iridescent, the nervures and stigma pale testaceous; the abdomen of the same form as that of the worker; the insect thinly covered with fine short silky pubescence.

Hab. Brazil (Villa Nova, on the Amazons).

EXPLANATION OF PLATE XIII.

- Fig. 1. *Eciton crassicornis*. ♀.
2. Antenna of *Eciton crassicornis*. ♀.
3. Head of *Eciton raptor*. ♀.
4. Antenna of *Eciton raptor*. ♀.
5. Antenna of *Eciton curvidentata*. ♀.
6. Head of *Eciton hamata*. ♀.
6a, the eyes.
7. Mentum of *Eciton hamata*.
a, the labial palpi.
8. Maxilla of *Eciton hamata*.
a, the lobe of the maxilla; b, the maxillary palpus.
9. *Pseudomyrma advena*. ♀.
10. Wing of the female.
11. Antenna of the same.
12. *Pseudomyrma cephalica*. ♀.
13. *Pseudomyrma cephalica*. ♂.
14. Anterior leg of *Pseudomyrma cephalica*. ♀.
15. Abdomen of *Pseudomyrma cephalica* ♀ in profile.
16. Antenna of *Pseudomyrma cephalica*. ♀.
17. Head of *Pseudomyrma cephalica*. ♀.
18. *Myrmica savissima*. ♀.
19. Nodes of the abdomen of the same in profile.



F. Smith sculp: